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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/658,300

09/08/2003

Eric Stephen Mattis

030296

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02/06/2006

QUALCOMM, INC  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

EXAMINER

PRESTON, ERIK D

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/658,300

Applicant(s)

MATTIS ET AL.

Examiner

Erik D. Preston

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2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/09/2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3,7,8 &10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Studer et al. (US 4321572) in view of Belyanskii et al. (RU 2165582 C2).

With respect to claim 1, Studer teaches an apparatus for providing electrical coupling, comprising: a motor (which inherently exists; Col. 4, Lines 56-59) having a hollow shaft (Fig. 6, #107) for and being capable of rotation, said shaft being further capable of allowing electrical signals to pass there through, and an antenna horn (Fig. 1, #16) rotatable about said shaft, said shaft being disposed coaxially with said antenna horn on an axis of said horn which extends through a plane in which said antenna horn is rotatable, but it does not teach said shaft extending through said motor. However, Belyanskii teaches a hollow motor shaft extending through a motor. It would have been

obvious to one of ordinary skill in the art at the time of the invention to modify the shaft of Studer in view of the shaft as taught by Belyanskii because it provides a means for communicating signals from an antenna to a guidance and control system (Belyanskii, Abstract).

With respect to claim 2, Studer in view of Belyanskii teaches the apparatus of claim 1, and Studer teaches that said shaft comprises a conductor, the shaft for conducting electrical signals through said motor.

With respect to claim 3, Studer in view of Belyanskii teaches the apparatus of claim 1, and both Studer and Belyanskii teach an electrical conductor located within said shaft for providing said electrical signals through said motor.

With respect to claim 7, Studer in view of Belyanskii teaches the apparatus of claim 1, and, Belyanskii teaches a waveguide (Fig. 2, #22).

With respect to claim 8, Studer in view of Belyanskii teaches the apparatus of claim 7, wherein the shaft additionally comprises a waveguide coupler (See diagram below).

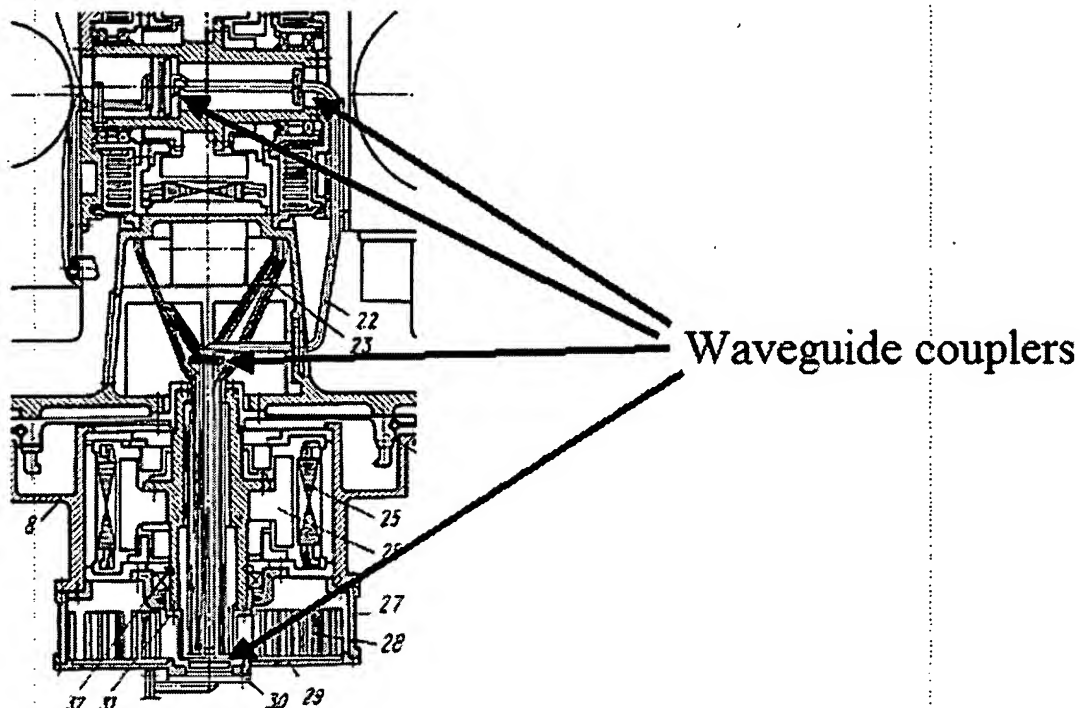
With respect to claim 10, Studer in view of Belyanskii teaches the apparatus of claim 3, and Studer teaches a platform (the upper surface of Fig. 1, #12) connected to the shaft wherein the conductor is fixed with respect to the shaft (the shaft is a conductor).

With respect to claim 11, Studer in view of Belyanskii teaches the apparatus of claim 3, and Studer teaches a platform connected to the shaft, wherein the conductor is affixed to the shaft and rotates therewith.

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With respect to claim 12, Studer in view of Belyanskii teaches the apparatus of claim 3, and Studer teaches that the electrical conductor comprises an outer conductor (Fig. 6, #110), a dielectric (Fig. 6, #106), and a center conductor (Fig. 6, #102), wherein the dielectric and the center conductor are fixed (to one another), and the outer conductor is fixed to said shaft (it is a part of the shaft).

With respect to claim 13, Studer in view of Belyanskii teaches the apparatus of claim 1, and Studer teaches that said shaft comprises: A dielectric material (Fig. 4, #106) within said shaft and affixed thereto; and a center conductor within said dielectric material.



Claims 4-6 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Studer et al. (US 4321572) in view of Belyanskii et al. (RU 2165582 C2) further in view

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of Kumasaka et al. (US 2002/0034152). Studer teaches in view of Belyanskii teaches the apparatus of claim 3, but it does not specifically teach the electrical conductor comprising a coaxial cable or a rotational coupling for coupling said electrical signals between a second conductor and the conductor. However, Kumasaka teaches a coaxial cable (Fig. 3, #31) and a rotational coupler (Fig. 3, #61) for coupling said electrical signals between a second conductor and the conductor. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the hollow shaft of Studer in view of the hollow shaft as taught by Kumasaka because it provides a well-known and equivalent means for routing a signal through a rotating shaft without the use of sliding contacts (Studer, Abstract), which is one of the main goals of both Studer and Belyanskii.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

In response to the applicants argument that Studer does not teach an antenna horn, it is noted that the antenna of Studer is an antenna horn. The fact that it is parabolic in shape does not change this.

In response to applicant's argument that Kumasaka is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this

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case, Kumasaka comprises a hollow rotating shaft of a motor provided with a means for transmitting an electrical signal there through which is very pertinent to, and almost entirely the same as, the field of endeavor of Belyanskii, Studer, and the applicant.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik D. Preston whose telephone number is (571)272-8393. The examiner can normally be reached on Monday through Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



01/24/2006



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